

WHAT IS CLAIMED IS:

1. Flame diverter element, comprising:
an elongated channel having opposing first and second end portions and a rupturable disc in fluid communications with said elongated channel mounted to each of said opposing first and second end portions; and,
first and second vapor flow channels disposed in said elongated channel, said first and second vapor flow channels each having an inlet and outlet, one of said inlet having a predetermined spacing from said rupturable disc at one of said opposing first and second end portions and one of said outlet having a predetermined spacing from the other end of said elongated channel, either of said first and second vapor flow channels being configured to receive process vapor from a flammable process and to form a primary flow path for process vapor propagation between said elongated channel and the other of said first and second vapor flow channels to a downstream process.
2. The flame diverter element recited in claim 1 wherein said rupturable discs are each bi-directional relative to said elongated channel.
3. The flame diverter element recited in claim 1 wherein each one of said rupturable discs is capable of rupturing at a pressure of not more than about 5 psig.
4. The flame diverter element recited in claim 1 wherein said elongated channel has a wall thickness of at least 0.237 inches and said vapor flow channel has a wall thickness of at least 0.139 inches.
5. The flame diverter element recited in claim 1 wherein said vapor flow channels are welded to said elongated channel.

6. The flame diverter element recited in claim 4 wherein said elongated channel has a diameter of about 4 inches and said vapor flow channels each has a diameter of about 2 inches.

7. The flame diverter element recited in claim 1 wherein each of said rupturable discs is sandwiched between a pair of opposing flanges fixedly mounted to said elongated channel.

8. The flame diverter element recited in claim 7 wherein said pair of opposing flanges has a diameter of about 4 inches and a force rating of 150 lbs.